

SEQUENCE LISTING

<110> Stoop, Johan M

<120> PRODUCTION OF NOVEL FRUCTOSE POLYMERS IN EMBRYOS OF TRANSGENIC PLANTS

<130> BB1494 US NA

<140>

<141>

<150> 60/404,844

<151> 2002-08-21

<160> 20

<170> Microsoft Office 2000

<210> 1

<211> 3421

<212> DNA

<213> Artificial

<220>

<221> Cassette

<222> (1)..(3421)

<223> Jerusalem artichoke SST expression cassette

<400> 1

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| tggatacaac | actttgtaac | atagtgacac | tctctccttc | ctttctttta | ccttagaact | 120 |
| atacatagaa | tctacattca | ataaaaatac | agtaggtacg | ccgagagatt | taaaatgagt | 180 |
| aagctaacad | accaactaag | gccctgtttg | tttcggatta | taatctctcc | agattatata | 240 |
| atccagcgta | aataattcag | cagataaaca | aacacctaata | ttatatgttc | agattatata | 300 |
| atctatagcg | gagattatga | taatctcgta | atctcctaag | agtagcttat | ttgagatttt | 360 |
| tttggcaaaa | gacccactac | cgttatgtaa | atagaattac | aatatatgac | atccttcttt | 420 |
| cttcacctca | aataaacaaa | caagggtact | gttgctttat | gaataatcta | catttatata | 480 |
| atctagacta | acaaacaact | acatatagat | tataatacgt | ctagattata | atctagatta | 540 |
| tataatttta | attatagtcg | atattatata | atctataagc | taaaacaaat | agcccctaata | 600 |
| tattaggcta | ttagttgtta | ggctatttta | atctaagcgt | aaaacgaact | aatagcttat | 660 |
| tagttgaatt | acaattagct | caacggaatt | ctctgttttt | ctaaaaaaa | actgcccctc | 720 |
| tcttacagca | aattgtccgc | tgcccgctgt | ccagatacaa | tgaacgtacc | tagtaggaac | 780 |
| tcttttacac | gctcggtcgc | tcgccgcgga | tcggagtccc | cggaacacga | caccactgtg | 840 |
| gaacacgaca | aagtctgctc | agaggcggcc | acaccctggc | gtgcaccgag | ccggagcccg | 900 |
| gataagcacg | gtaaggagag | tacggcggga | cgtggcgacc | cgtgtgtctg | ctgccacgca | 960 |
| gccttcctcc | acgtagccgc | gcggccgcgc | cacgtaccag | ggcccgccgc | tggtataaat | 1020 |
| gcgcgccacc | tccgcttttag | ttctgcatac | agctagccaa | cccaacacac | acccgagcat | 1080 |
| atcacagtga | cagacactac | accatggtgg | tttcatccac | caccaccacc | cctctcattc | 1140 |
| tccatgatga | ccctgaaaac | ctcccagaac | tcaccggttc | tccgacaact | cgctgcttat | 1200 |
| ccatcgcaaa | agtgcctttcg | gggatacctg | tttcggttct | ggttataggt | gctctgtgtg | 1260 |
| ctttaatcaa | caaccaaaca | tatgaatccc | cctcggccac | cacattcgta | actcagttgc | 1320 |
| caaataattga | tctgaagcgg | gttccaggaa | agttggattc | gagtgtctgag | gttgaatggc | 1380 |
| aacgatccac | ttatcatttt | caacccgaca | aaaatttcat | tagcgatcct | gatggcccaa | 1440 |
| tgtatcacat | gggatggtat | catctatttt | atcagtacaa | ccctcaatct | gccatctggg | 1500 |
| gaaacatcac | atggggccac | tcggtatcga | aagacatgat | caactgggtc | catctccctt | 1560 |
| tcgccatggt | tcctgacctat | tggtacgaca | tcgaagggtg | catgacgggt | tcggctacag | 1620 |
| tctccctaa | tggtcaaata | atcatgcttt | actcgggcaa | cgcgtatgat | ctctcccaag | 1680 |

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|-------------|-------------|-------------|-------------|-------------|-------------|------|
| tacaatgctt | ggcgtacgct | gtcaactcgt | cggatccact | tcttatagag | tggaaaaaat | 1740 |
| atgaaggtaa | ccctgtctta | ctcccaccac | caggagtagg | ctacaaggac | tttcggggacc | 1800 |
| catccacatt | gtggctcggc | cctgatgggtg | aatatagaat | ggtaatgggg | tccaagcaca | 1860 |
| acgagactat | tggctgtgct | ttgatttacc | ataccactaa | ttttacgcat | tttgaattga | 1920 |
| aagaggaggt | gcttcatgca | gtcccacata | ctggatgtgtg | ggaatgtgtt | gatctttacc | 1980 |
| cgggtgtccac | cgtacacaca | aacgggctgg | acatgggtgga | taacggggcca | aatgttaagt | 2040 |
| acgtgttgaa | acaaagtggg | gatgaagatc | gccatgattg | gtatgcaatt | ggaagttagc | 2100 |
| atatagttaa | tgataagtgg | taccagatg | acccggaaaa | tgatgtgggt | atcggattaa | 2160 |
| gatatgattt | tggaaaattt | tatgctgcca | agacgtttta | tgaccaacat | aagaagagga | 2220 |
| gagtcctttg | gggctatgtt | ggagaaaccg | atcccaaaaa | gtatgacctt | tccaagggat | 2280 |
| gggctaacat | tttgaatatt | ccaaggaccg | tcgtttttgga | cctcgaaact | aaaaccaatt | 2340 |
| tgattcaatg | gccaatcgag | gaaaccgaaa | accttaggtc | gaaaaagtat | gatgaattta | 2400 |
| aagacgtcga | acttcgaccc | ggggcactcg | ttccccttga | gataggcaca | gccacacagt | 2460 |
| tggatatagt | tgcgacattc | gaaatcgacc | aaaagatgtt | ggaatcaacg | ctagaggccg | 2520 |
| atgttctatt | caattgcacg | actagtgaag | gctcggttgc | aaggagtgtg | ttgggaccgt | 2580 |
| ttgggtgtgg | ggttctagcc | gatgcccgag | gctccgaaca | acttcctgta | tacttctata | 2640 |
| tcgcaaaaaga | tattgatgga | acctcacgaa | cttattttttg | tgccgacgaa | acaagatcat | 2700 |
| ccaaggatgt | aagcgtaggg | aaatgggtgt | acggaagcag | tgttcctgtc | ctccctggcg | 2760 |
| aaaagtacaa | tatgagggtta | ttgggtggatc | attcgatagt | agagggattt | gcacaaaacg | 2820 |
| ggagaaccgt | ggtgacatca | agagtgtatc | caacaaaggc | gatctacaac | gctgcgaagg | 2880 |
| tgttttttgtt | caacaacgcg | actggaatca | gtgtgaaggc | gtcgatcaag | atctggaaga | 2940 |
| tgggggaagc | agaactcaat | cctttccctc | ttcctgggtg | gactttcgaa | ctttgatggg | 3000 |
| tatatattttg | accctatata | tgtgttatta | tcatgatggg | tatatattttg | accctatata | 3060 |
| tgtgttatta | tcatgaagca | taagtttgga | ctggaggggg | tattattgta | attttatatg | 3120 |
| catgttctat | tacttgatga | tccccgatcg | ttcaaacatt | tggcaataaa | gtttcttaag | 3180 |
| attgaatcct | gttgccggtc | ttgcgatgat | tatcatataa | tttctgttga | attacgttaa | 3240 |
| gcatgtaata | attaacatgt | aatgcatgac | gttattttatg | agatgggttt | ttatgattag | 3300 |
| agtcccgcaa | ttatacattt | aatacgcgat | agaaaacaaa | atatagcgcg | caaactagga | 3360 |
| taaattatcg | cgcgcggtgt | catctatggt | actagatcgg | gaattgccaa | gcttcagctg | 3420 |
| c | | | | | | 3421 |

<210> 2
 <211> 3245
 <212> DNA
 <213> Artificial

 <220>
 <221> Cassette
 <222> (1)..(3245)
 <223> Jerusalem Artichoke FFT expression cassette

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| actagtggat | cccccgggaa | gcttgagaca | ggagataaaa | gtagaaactg | gatacaacac | 60 |
| tttghtaacat | agtgacactc | tctccttctt | ttctttttacc | ttagaactat | acatagaatc | 120 |
| tacattcaat | aaaaatacag | taggtacgcc | gagagattta | aaatgagtaa | gctaacatac | 180 |
| caactaaggc | cctgtttgtt | tcggattata | atctctccag | attatataat | ccagcgtaaa | 240 |
| taattcagca | gataaacaaa | cacctaaatt | atatgttcag | attatataat | ctatagcggg | 300 |
| gatttatgata | atctcgtaat | ctcctaagag | tagcttattt | gagatttttt | tggcaaaaaga | 360 |
| cccactaccg | ttatgtaaat | agaattacaa | tatatgacat | ccttctttct | tcacctcaaa | 420 |
| taaacaaaaca | agggtactgt | tgctttatga | ataatctaca | tttatataat | ctagactaac | 480 |
| aaacaactac | atatagatta | taatacgtct | agattataat | ctagattata | taatttaaat | 540 |
| tatagtcgat | attatataat | ctataagcta | aaacaaatag | cccctaatta | ttaggctatt | 600 |
| agttgttagg | ctattttaa | ctaagcgtaa | aacgaactaa | tagcttatta | gttgaattac | 660 |
| aattagctca | acggaattct | ctgtttttct | aaaaaaaaaac | tgcccctctc | ttacagcaaa | 720 |
| ttgtccgctg | cccgtcgtcc | agatacaatg | aacgtacctc | gtaggaactc | ttttacacgc | 780 |
| tcggtcgctc | gccgcggatc | ggagtccccg | gaacacgaca | ccactgtgga | acacgacaaa | 840 |
| gtctgctcag | aggcggccac | accctggcgt | gcaccgagcc | ggagcccggg | taagcacggg | 900 |
| aaggagagta | cggcgggacg | tggcgaccg | tgtgtctgct | gccacgcagc | cttcctccac | 960 |
| gtagccgcgc | ggccgcgccca | cgtaccaggg | cccgcgcgtg | gtataaatgc | gcgccacctc | 1020 |

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|------|
| cgcttttagtt | ctgcatacag | ctagccaacc | caacacacac | ccgagcatat | cacagtgaca | 1080 |
| gacactacac | catggaaacc | cctgaaccct | ttacagacct | tgaacatgaa | ccccacacac | 1140 |
| ccctactgga | ccaccaccac | aaccaccac | cacaaaaccac | cacaaaacct | ttgttcacca | 1200 |
| gggttgtgtc | cggtgtcacc | tttgttttat | tcttctttgc | tttcgctatc | gtattcattg | 1260 |
| ttctcaacca | acagaattct | tctgttcgta | tcgtcaccaa | ttcggagaaa | tcttttataa | 1320 |
| ggtattcgca | gaccgatcgc | ttgtcgtggg | aacggaccgc | ttttcatttt | cagcctgcca | 1380 |
| agaattttat | ttacgatcca | gatggtcagt | tgtttcacat | gggctggtac | catatgttct | 1440 |
| atcaatacaa | cccatatcgca | ccggtttggg | gcaatatgtc | atgggggtcac | tcagtgtcca | 1500 |
| aagacatgat | caactggtac | gagctgccag | tcgctatggg | cccgaaccgaa | tggtatgata | 1560 |
| tcgagggcgt | cttatccggg | tctaccacgg | tctttccaaa | cggtcagatc | tttgattgtg | 1620 |
| atactgggaa | cgctaattgat | ttttcccaat | tacaatgcaa | agctgtaccc | gtaaacttat | 1680 |
| ctgaccogct | tcttattgag | tgggtcaagt | atgaggataa | cccaatcctg | tacactccac | 1740 |
| cagggatttg | gttaaaggac | tatcgggacc | cgtcaacagt | ctggacaggt | cccgatggaa | 1800 |
| agcataggat | gatcatggga | actaaacgtg | gcaatacagg | catgggtactt | gtttactata | 1860 |
| ccactgatta | cacgaactac | gagttgttgg | atgagccgtt | gcactctgtt | cccaacaccg | 1920 |
| atatgtggga | atgcgtcgac | ttttaccggg | tttcggttaac | caatgatagt | gcacttgata | 1980 |
| tggcggccta | tgggtcgggt | atcaaacacg | ttattaaaga | aagttgggag | ggacatggaa | 2040 |
| tggattggta | ttcaatcggg | acatatgacg | cgataaatga | taaattggact | cccgataacc | 2100 |
| cggaactaga | tgctcggatc | gggttacggg | gcgattacgg | gaggtttttt | gcatcaaaga | 2160 |
| gtctttatga | cccattgaag | aaaaggagga | tcacttgggg | ttatgttgga | gaatcagata | 2220 |
| gtgctgatca | ggacctctct | agaggatggg | ctactgttta | taatgttgga | agaacaattg | 2280 |
| tactagatag | aaagaccggg | acccattttac | ttcattggcc | cgttgaggaa | gtcgagagtt | 2340 |
| tgagatacaa | cggtcaggag | tttaaagaga | tcaagctaga | gcccgggttca | atcattccac | 2400 |
| tcgacatagg | cacggctaca | cagttggaca | tagttgcaac | atttgaggtg | gatcaagcag | 2460 |
| cgttgaaacgc | gacaagtga | accgatgata | tttatgggtg | caccactagc | ttaggtgcag | 2520 |
| cccaaagggg | aagtttggga | ccatttgggtc | ttgcggttct | agccgatgga | accctttctg | 2580 |
| agttaactcc | ggtttatttc | tatatagcta | aaaaggcaga | tggaggtgtg | tcgacacatt | 2640 |
| tttgtaccga | taagctaagg | tcatcactag | attatgatgg | ggagagagtg | gtgtatgggg | 2700 |
| gcactgttcc | tgtgttagat | gatgaagaac | tcacaatgag | gctattgggtg | gatcattcga | 2760 |
| tagtgagggg | gtttgcgcaa | ggaggaagga | cggttataac | atcaagggcg | tatccaacaa | 2820 |
| aagcgatata | cgaacaagcg | aagctgttct | tgttcaacaa | cgccacaggt | acgagtgtga | 2880 |
| aagcatctct | caagatttgg | caaatggctt | ctgcaccaat | tcatacaatac | cctttttaat | 2940 |
| taccggctat | cgggatcccc | gatcggttcaa | acatttggca | ataaagtttc | ttaagattga | 3000 |
| atcctgttgc | cggctcttgc | atgattatca | tataatttct | gttgaattac | gttaagcatg | 3060 |
| taataattaa | catgtaatgc | atgacgttat | ttatgagatg | ggtttttatg | attagagtcc | 3120 |
| cgcaattata | catttaatac | gcgatagaaa | acaaaatata | gcgcgcaaac | taggataaat | 3180 |
| tatcgcgcg | ggtgtcatct | atgttactag | atcggaatt | gccaagctta | tcgataccgt | 3240 |
| cgacc | | | | | | 3245 |

<210> 3
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 <212> DNA
 <213> Artificial

<220>
 <221> cassette
 <222> (1)..(2116)
 <223> bar gene expression cassette

| | | | | | | |
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| cccgcccaac | gatttgcgt | cactgtcaag | gtttgacctg | cacttcattt | ggggcccaca | 120 |
| tacaccaaaa | aaatgctgca | taattctcgg | ggcagcaagt | cggttaccgg | gccgccgtgc | 180 |
| tggaccgggt | tgaatggtgc | ccgtaacttt | cggtagagcg | gacggccaat | actcaacttc | 240 |
| aaggaatctc | acccatgcgc | gcccgcgggg | aaccggaggt | cccttcagtg | aacgttatta | 300 |
| gttcgccgct | cggtgtgtcg | tagatactag | cccctggggc | cttttgaagt | ttgaataaga | 360 |
| tttatgtaat | cagtctttta | ggtttgaccg | gttctgcgcg | tttttttaaa | attggatttg | 420 |
| taataataaa | acgcaattgt | ttgttattgt | ggcgctctat | catagatgtc | gctataaacc | 480 |
| tattcagcac | aatatattgt | tttcattttta | atattgtaca | tataagtagt | agggtacaat | 540 |
| cagtaaatgg | aacggagaat | attattcata | aaaatacagat | agtaacgggt | gatataattca | 600 |

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|------|
| ttagaatgaa | ccgaaaccgg | cggttaaggat | ctgagctaca | catgctcagg | ttttttacaa | 660 |
| cgtgcacaac | agaattgaaa | gcaaatatca | tgcgatcata | ggcgtctcgc | atatctcatt | 720 |
| aaagcaggac | tctagatctc | ggtgacgggc | aggaccggac | ggggcggtac | cggcaggctg | 780 |
| aagtcagct | gccagaaacc | cacgtcatgc | cagttcccgt | gcttgaagcc | ggccgcccgc | 840 |
| agcatgccgc | ggggggcata | tccgagcgcc | tcggtcatgc | gcacgctcgg | gtcgttgggc | 900 |
| agcccgatga | cagcgaccac | gotcttgaag | ccctgtgcct | ccagggactt | cagcagggtg | 960 |
| gtgtagagcg | tggagcccag | tcccgtccgc | tgggtggcgg | gggagacgta | cacggtcgac | 1020 |
| tcggccgtcc | agtcgtaggc | gttgcggtgc | ttccaggggc | ccgcgtaggc | gatgccggcg | 1080 |
| acctcgccgt | ccacctcggc | gacgagccag | ggatagcgct | cccgcagacg | gacgaggctc | 1140 |
| tccgtccact | cctgcggttc | ctgcggctcg | gtacggaagt | tgaccgtgct | tgtctcgatg | 1200 |
| tagtggttga | cgatggtgca | gaccgcccgc | atgtccgcct | cggtggcacg | gcggatgtcg | 1260 |
| gccgggcgtc | gttctgggct | catggatccg | attttagtag | agagactggg | gatttcagcg | 1320 |
| tgtcctctcc | aaatgaaatg | aacttcctta | tatagaggaa | gggtcttgcg | aaggatagtg | 1380 |
| ggattgtgcy | tcatccctta | cgtcagtgga | gatatcacat | caatccactt | gctttgaaga | 1440 |
| cgtggttggg | acgtcttctt | tttccacgat | gctcctcggt | ggtggggggtc | catctttggg | 1500 |
| accactgtcg | gcagaggcat | cttgaacgat | agcctttcct | ttatcgcaat | gatggcattt | 1560 |
| gtaggtgccg | ccttcctttt | ctactgtcct | tttgatgaag | tgacagatag | ctgggcaatg | 1620 |
| gaatccgagg | aggtttcccg | atattaccct | ttgttgaaaa | gtctcaatag | ccctttgggtc | 1680 |
| ttctgagact | gtatctttga | tattcttgga | gtagacgaga | gtgtcgtgct | ccaccatggt | 1740 |
| gacgaagatt | ttcttcttgt | cattgagtcg | taaaagactc | tgtatgaact | gttcgccagt | 1800 |
| cttcacggcg | agttctgtta | gatcctcgat | ctgaattttt | gactccatgg | cctttgatctc | 1860 |
| agtaggaact | actttcttag | agactccaat | ctctattact | tgccttggtt | tatgaagcaa | 1920 |
| gccttgaatc | gtccatactg | gaatagtact | tctgatcttg | agaaatatat | ctttctctgt | 1980 |
| gttcttgatg | cagttagtc | tgaatctttt | gactgcattc | ttaaccttct | tgggaaggta | 2040 |
| tttgatctcc | tggagattat | tactcgggta | gatcgtcttg | atgagacctg | ccgcgtaggc | 2100 |
| tagaggatcc | ccggga | | | | | 2116 |

<210> 4
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 <212> DNA
 <213> Artificial

<220>
 <221> primer
 <222> (1)..(25)
 <223> oligonucleotide primer

| | | |
|-------------|------------|-------|
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| | | 25 |

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 <213> Artificial

<220>
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 <223> Oligonucleotide primer

| | | |
|------------|------------|----|
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| ccagcccgtt | tgtgtgtacg | gt |
| | | 22 |

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 <210> 7
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 <223> Oligonucleotide primer

 <400> 7
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 <220>
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 <221> primer
 <222> (1)..(41)
 <223> Oligonucleotide primer

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 <210> 10
 <211> 2034
 <212> DNA
 <213> Parthenium argentatum

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 ccagaactca ccggttctcc gacaactcgt cgtctatcca tcgcaaaagt gctttcgggg 120
 atccttggtt ccggttctggt tatagggtgct cttgttgctt taatcaacaa ccaaacatat 180

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|------|
| gaatccccct | cggccaccac | attcgtaact | cagttgccaa | atattgatct | gaagcgggtt | 240 |
| ccaggaaagt | tggattcgag | tgctgagggt | gaatggcaac | gatccactta | tcattttcaa | 300 |
| cccgcacaaa | atttcattag | cgatcctgat | ggcccaatgt | atcacatggg | atgggtatcat | 360 |
| ctattttatc | agtacaaccc | tcaatctgcc | atctggggca | acatcacatg | gggccactcg | 420 |
| gtatcgaaa | acatgatcaa | ctgggtccat | ctccctttcg | ccatgggtcc | tgaccattgg | 480 |
| tacgacatcg | aaggtgtcat | gacgggttcg | gctacagtcc | tccctaattg | tcaaatcatc | 540 |
| atgctttact | cgggcaacgc | gtatgatctc | tcccaagtac | aatgcttggc | gtacgctgtc | 600 |
| aaactcgtcg | atccacttct | tatagagtgg | aaaaaatatg | aaggtaaccc | tgtcttactc | 660 |
| ccaccaccag | gagtaggcta | caaggacttt | cgggacccat | ccacattgtg | gtcggggcct | 720 |
| gatggtgaat | atagaatggg | aatgggggtc | aagcacaacg | agactattgg | ctgtgctttg | 780 |
| atttaccata | ccactaattt | tacgcatttt | gaattgaaag | aggaggtgct | tcatgcagtc | 840 |
| ccacatactg | gtatgtggga | atgtgttgat | ctttaccogg | tgtccaccgt | acacacaaac | 900 |
| gggctggaca | tgggtggataa | cgggccaaat | gttaagtacg | tgttgaaaca | aagtggggat | 960 |
| gaagatcgcc | atgattggta | tgcaattgga | agttacgata | tagtgaatga | taagtggtag | 1020 |
| ccagatgacc | cggaaaatga | tgtgggtatc | ggattaagat | atgattttgg | aaaattttat | 1080 |
| gcgtccaaga | cgttttatga | ccaacataag | aagaggagag | tcctttgggg | ctatgttgga | 1140 |
| gaaaccgatc | cccaaaaagta | tgacctttca | aagggatggg | ctaacatttt | gaatattcca | 1200 |
| aggaccgtcg | ttttggacct | cgaaactaaa | accaatttga | ttcaatggcc | aatcgaggaa | 1260 |
| accgaaaacc | ttaggtcgaa | aaagtatgat | gaatttaaag | acgtcgagct | tcgaccggg | 1320 |
| gcactcggtc | cccttgagat | aggcacagcc | acacagttgg | atatagttgc | gacattcgaa | 1380 |
| atcgacaaaa | agatgttgga | atcaacgcta | gaggccgatg | ttctattcaa | ttgcacgact | 1440 |
| agtgaaggct | cggttgcaag | gagtggtgtg | ggaccgtttg | gtgtgggtgg | tctagccgat | 1500 |
| gcccagcgct | ccgaacaact | tcctgtatac | ttctatatcg | caaaagatat | tgatggaacc | 1560 |
| tcacgaactt | atttttgtgc | cgacgaaaca | agatcatcca | aggatgtaag | cgtagggaaa | 1620 |
| tgggtgtacg | gaagcagtgt | tcctgtcctc | ccaggcgaaa | agtacaatat | gaggttattg | 1680 |
| gtggatcatt | cgatagtaga | gggatttgca | caaaacggga | gaaccgtggg | gacatcaaga | 1740 |
| gtgtatccaa | caaaggcgat | ctacaacgct | gcgaagggtg | ttttgttcaa | caacgcgact | 1800 |
| ggaatcagtg | tgaaggcgtc | gatcaagatc | tggaagatgg | gggaagcaga | actcaatcct | 1860 |
| ttccctcttc | ctgggtggac | tttcgaactt | tgatggttat | attttggacc | ctatatatgt | 1920 |
| gttattatca | tgatggttat | attttggacc | ctatatatgt | gttattatca | tgaagcataa | 1980 |
| gtttggactg | gaggggggtat | tattgtaatt | ttatatgcac | gttctattac | ttga | 2034 |

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 <222> (1)..(38)
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 gg 1862

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 <213> Expression vector pJMS02

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| | | | | | | |
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| caagtacaat | gcttagcgta | cgcagtcaac | tcatacagatc | cacttcttat | agagtggaaa | 660 |
| aaatacgaag | gcaacccggt | tttattgccg | ccgccagggg | tgggttacaa | ggattttcgg | 720 |
| gacccatcta | cattgtggct | gggccccgat | ggtgaatata | gaatggtaat | ggggtccaag | 780 |
| cacaacgaga | ctattggttg | tgctttgatt | taccatacca | ctaattttac | gcattttgaa | 840 |
| ttgaatgagg | agggtgcttca | tgcggtccca | catactggta | tgtgggaatg | cgttgatctt | 900 |
| tatccggtat | ccaccacaca | cacaaacggg | ttggacatgg | tggataatgg | gccaaatgta | 960 |
| aaatacgtgt | tgaacaaaag | tggggatgaa | gatcgccatg | attggtatgc | gatttgaagt | 1020 |
| tatgattggg | tgaatgataa | gtggtaccgg | gatgaccggg | aaaacgatgt | gggtatcggg | 1080 |
| ttaagatacg | attacggaaa | gttttatgcg | tccaagacgt | tttatgacca | acataagaaa | 1140 |
| aggaggggtcc | tttggggcta | tgttgagaaa | accgatcccg | aaaagtatga | ccttacaaaag | 1200 |
| ggatgggcta | acataattgaa | tattccaagg | accgtcgttt | tggacacgaa | aactaaaacc | 1260 |
| aatttgattc | aatggccaat | tgaggaaacc | gaaaaactta | ggtcgaaaaa | gtatgataaa | 1320 |
| tttgtagatg | tggagcttcg | accgggtca | ctcattcccc | tcgagatagg | tacagccaca | 1380 |
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| ccgtttgggtg | tgggtggttct | agctgatgcc | cagcgcaccg | aacaacttcc | tgtgtatttc | 1560 |
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| aacggaagaa | cgggtggtgac | atcgagagtg | tatccaacga | aggcaattta | caacgctgcg | 1800 |
| aaggtgtttt | tgttcaacaa | cgcgaccggg | attaggggtga | aggcgtcggg | caagatttgg | 1860 |
| aagatggcgg | aagcagaact | caaccctttc | ccagttactg | ggtggacttc | ttgagcggcc | 1920 |
| gcgacacaag | tgtgagagta | ctaaataaat | gctttgggtg | tacgaaatca | ttacactaaa | 1980 |
| taaaataatc | aaagcttata | tatgccttcc | gctaaggccg | aatgcaaaga | aatttggttct | 2040 |
| ttctcgttat | cttttgccac | ttttactagt | acgtattaat | tactacttaa | tcactcttgt | 2100 |
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| agcaaaaaac | ccctcaagac | ccgttttagag | gccccagggg | gttatgctag | ttattgctca | 2220 |
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| cgcccgcacag | tcccggctcc | ggatcggacg | attgctgcgc | atcgaccctg | cgcccaagct | 2460 |
| gcatacatga | aattgccgtc | aaccaagctc | tgatagagtt | ggtcaagacc | aatgcggagc | 2520 |
| atatacgccc | ggagccgcgg | cgatcctgca | agctccggat | gcctccgctc | gaagtagcgc | 2580 |
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| caagctgggc | tgtgtgcacg | aaccccccg | tcagcccagc | cgctgcgcct | tatccggtaa | 3960 |
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| taactacggc | tacactagaa | ggacagtagt | tggtagctgc | gctctgctga | agccagttac | 4140 |
| cttcggaaaaa | agagttggta | gctcttgatc | cggcaaaaca | accaccgctg | gtagcgggtg | 4200 |

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| tttttttgtt | tgcaagcagc | agattacgcg | cagaaaaaaa | ggatctcaag | aagatccttt | 4260 |
| gatcttttct | acgggggtctg | acgctcagtg | gaacgaaaaa | tcacgttaag | ggatttttgg | 4320 |
| catgacatta | acctataaaa | ataggcggtat | cacgaggccc | tttcgtctcg | cgcgtttcgg | 4380 |
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| agcggatgcc | gggagcagac | aagcccgtca | gggcgcgtca | gcgggtgttg | gcgggtgtcg | 4500 |
| gggctggcct | aactatgcgg | catcagagca | gattgtactg | agagtgcacc | atatggacat | 4560 |
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| cctatcctat | aagtagtccc | gattctccca | acattgctta | ttcacacaac | taactaagaa | 6720 |
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 <211> 6667
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 <213> Expression vector pRM03

<220>
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 <222> (3914)..(3914)
 <223> n = A, C, G, or T

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| taaataaaaat | aatcaaagct | tatatatgcc | ttccgctaag | gccgaatgca | aagaaattgg | | 120 |
| ttcttttctcg | ttatctttttg | ccactttttac | tagtacgtat | taattactac | ttaatcatct | | 180 |
| ttgttttacgg | ctcattatat | ccgtcgacgg | cgcgcccgat | catccggata | tagttcctcc | | 240 |
| tttcagcaaaa | aaacccctca | agaccgcgtt | agaggcccca | aggggttatg | ctagttattg | | 300 |

| | | | | | | |
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| atcggcgagt | acttctacac | agccatcggt | ccagacggcc | gcgcttctgc | gggcgatttg | 480 |
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| caaaggatgt | tatgatatat | taacactcta | tctatgcacc | ttattgttct | atgataaatt | 180 |
| tcctcttatt | attataaaatc | atctgaatcg | tgacggctta | tggaatgctt | caaatagtac | 240 |
| aaaaacaaat | gtgtactata | agacttttcta | aacaatttcta | accttagcat | tgtgaacgag | 300 |
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| ttgcctcggg | acgagtgtcg | ggcgctcggt | ttccactatc | ggcgagtact | tctacacagc | 240 |
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